WATER

CONSERVATION NEW

Department of Water Resources

Division of Local Assistance

Water Conservation Office

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National Water Meeting Scheduled for California

You'll want to be sure to mark your calendar for September 17-19, 1997, to attend the Interstate Council on Water Policy's 1997 annual meeting at The Westin, Horton Plaza, San Diego. This national meeting will focus on a timely and relevant theme, "Interstate Water Management--New Trends in Water Allocation." This meeting is cosponsored by the California Department of Water Resources.

This event will bring together leaders from local, State, and federal agencies; water associations; environmental groups; Indian tribes; and Mexico. These leaders will give participants an overview of federal laws and recent court decisions on interstate waterways in addition to case studies involving interstate water management. The role of water use efficiency in the management of the Colorado River will also be discussed.

According to Raymond D. Hart, Deputy Director of the California Department of Water Resources, "Interstate water issues continue to grow in importance. No longer can a state isolate itself from issues of other states. We all share the same water, and it tends to cross state and national boundaries. ICWP will have an exciting annual meeting that will address this issue and emphasize new directions in allocating water between states."

ICWP represents state, interstate, intrastate, and regional water agencies; academic institutions; professional and business firms; and individuals committed to the conservation, use, development, and wise management of water. Established in 1959, ICWP is the national voice for water-related interests, including both quality and quantity issues.

(continued on page 2)

September 17: This day will be filled with ICWP committee meetings and a board of directors' meeting and dinner.

September 18: Federal, State, tribal, and environmental organizations will give participants an overview of federal laws and recent court decisions on interstate waterways. In addition, representatives from major river basins throughout the United States will talk about case studies involving interstate water management. A tour and reception will be offered in the afternoon and evening.

September 19: The role of water use efficiency in the management of the Colorado River will be discussed by representatives from federal and state organizations, Indian tribes, and Mexico.

A members' luncheon and annual business meeting and a new board of directors' meeting will be held in the afternoon. Water Conservation News provides information on the latest developments in agricultural and urban water conservation programs. This is a free newsletter published quarterly by the California Department of Water Resources, Division of Local Assistance, Water Conservation Office.

For more information about DWR's water conservation programs, call Ed Craddock, Chief, Water Conservation Office, at (916) 327-1655; Greg Smith, Urban Water Conservation, at (916) 327-1619; or Baryohay Davidoff, Agricultural Water Conservation, at (916) 327-1788. Information is also available from any of the following DWR District staff:

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2440 Main Street Red Bluff, CA 96080-2398 (916) 529-7399

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We welcome any comments, suggestions, and story ideas; please send them to:

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DWR does not endorse any of the businesses or consulting firms mentioned in this newsletter, since there may be others that offer the same or similar services.

National Water Meeting Scheduled for California

(continued from page 1)
Watch for the July edition of
Water Conservation News. It
will contain the full agenda,
annual meeting registration
form, meeting cost
information, and hotel
reservation form. In the
meantime, make sure you
schedule this event on your
calendar.

For more information, contact Dennis Letl, Deputy Chief, Division of Local Assistance, California Department of Water Resources, 1020 Ninth Street, Sacramento, California 95814; Phone: (916) 327-1764, e-mail letl@water.ca.gov.

Patience and Perseverance Pay Off on AB 3616 MOU

The formation of the Agricultural Water Management Council was assured when Glenn-Colusa Irrigation District signed the MOU in March. The MOU required 15 Group One signatures (agricultural water suppliers), irrigating 2 million acres, before the formation of the Council was triggered.

The quest for signatures began on November 19, 1996, with a mailing of the final MOU and a letter from DWR Director Kennedy urging its support. The response was almost immediate with Alta Irrigation District, Imperial Irrigation District, Tulare Lake Basin Water Storage District, and Westlands Water District signing by early December. The Group One agricultural water suppliers that have signed the MOU, thus forming the voting core of the Council, are: Alta Irrigation District, Arvin Edison Water Storage District, Bella Vista Water District, Central California Irrigation District, Columbia Canal Company, Firebaugh Canal Water District, Glenn Colusa Irrigation District, Imperial Irrigation District, Kern Delta Water District, Maine Prairie Water District, Pinyon Pines County Water District, Reclamation District 999. Reclamation District 2068, San Luis Water District, Solano Irrigation District, South Sutter Water District, Tulare Lake Basin Water Storage District, and Westlands Water District.

The total signatories now number over 44, including many Group Three, non-voting interested parties. While only one Group Two environmental organization has signed, DWR's staff hope others will consider the importance of this process. A number of other agricultural water suppliers will probably sign by the first meeting. Mark your calendars for the first Council meeting to be held in Sacramento on July 16, 1997.



Mission Statement of the Water Conservation Office

"To advance the efficient management and use of California's water resources in cooperation with other government agencies and the private sector through technical and financial assistance"



This newsletter is printed on recycled paper.



By Ed Craddock

Strong Support for Both Councils Necessary

As this issue of WCN goes to the printer, there have been enough signatories to the agricultural Memorandum of Understanding to form the Agricultural Water Management Council.

DWR is required to house AWMC according to the MOU formed under AB 3616. Now that AWMC is about to become a reality, we are actively preparing for this responsibility by providing space and administrative support. Our first administrative action will be to host the first meeting of the Council on July 16.

On the urban side, we intend to continue our strong support of the California Urban Water Conservation Council. Along with paying our annual dues, we have recently reproduced Guidelines for Preparing Cost-Effective Analyses of Urban Water Conservation Best Management Practices for CUWCC. Our hope is to focus our support of CUWCC even more in the future.

The draft Water Use Efficiency Component of CALFED's Bay-Delta Solution Alternatives also suggests that both of the Councils, and the implementation of BMPs and Efficient Water Management Practices, become a major part of the common program for water use efficiency. CALFED also calls for technical assistance from DWR and USBR in planning for and implementing water use efficiency programs. The Councils will be able to efficiently provide cooperative, cost-effective conservation programs to many local agencies.

Let's work toward making both Councils be all that they can be!

CIMIS Programs at DLA's District Offices



Since 1988, when the Department of Water Resources' Division of Local Assistance was formed, staff has provided technical and financial assistance to State, federal, and particularly local agencies for developing, managing, and improving water resources in California. A variety of water conservation programs are offered through the Northern, Central, San Joaquin, and Southern Districts located in Red Bluff, Sacramento, Fresno, and Glendale, respectively.

The California Irrigation Management Information System is one of these water conservation programs. This computerized weather station system was established in 1982 through a joint effort of UC Davis and DWR. Each of the 96 CIMIS stations collects hourly weather data and transmits it to a central computer in Sacramento where it is checked for accuracy and translated into usable irrigation reference data (see page 12). The Northern, Central, San Joaquin, and Southern Districts each have staff who help to establish and maintain the CIMIS stations that fall within their district's boundaries.

District staff assist local agencies locate potential sites for stations, maintain and monitor DWR-owned CIMIS stations, work closely with cooperators who own CIMIS stations, order equipment, and help CIMIS users retrieve information.

To obtain CIMIS data on-line, consult the CIMIS Internet address: http://wwwdla.water.ca.gov/cgi-bin/cimis/cimis/hq/main.pl.
This address provides CIMIS general and micro-irrigation data, and offers detailed explanations of the CIMIS program. For general information on DWR's Division of Local Assistance and its Districts, consult DLA's Internet address:

http://wwwdla.water.ca.gov/cgi-bin/home.pl, or each of the District's separate pages at:

Northern District: http://wwwdla.water.ca.gov/nd/index.html Central District: http://wwwdla.water.ca.gov/cd/home.html San Joaquin District: http://wwwdla.water.ca.gov/sjd/home.html Southern District: http://wwwdla.ca.gov/sd/home.html

Following is information on how to get more information on each of the districts and their CIMIS stations.

Northern District – Red Bluff

The Northern District operates and maintains nine CIMIS stations. For more information, contact Austine Eke at (916)529-7367; or e-mail eke@water.ca.gov

Central District – Sacramento

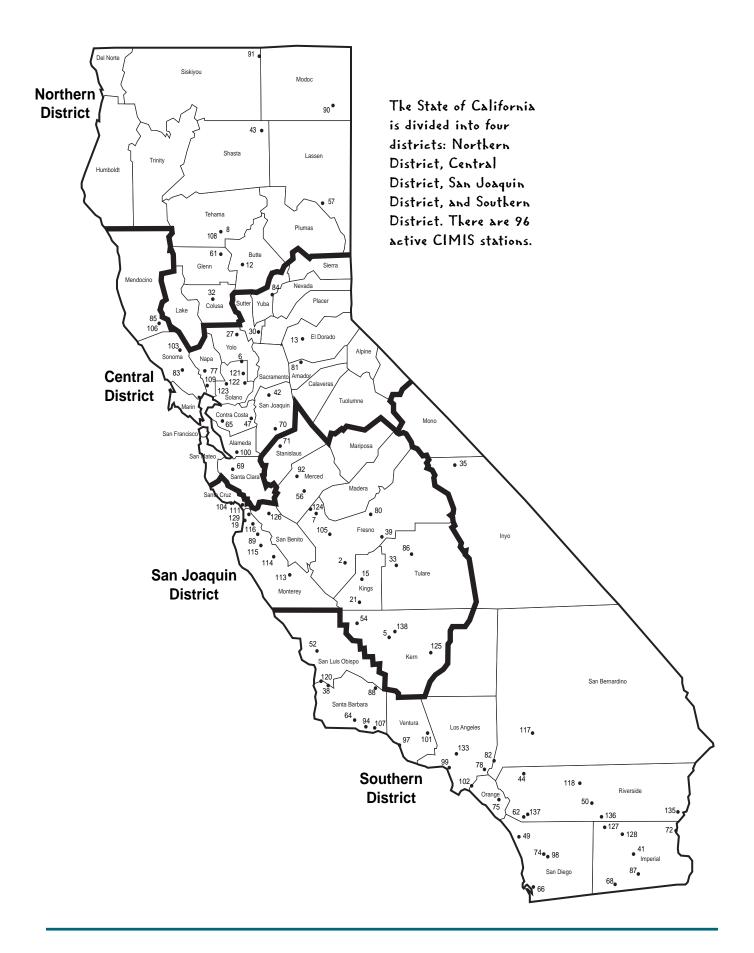
The Central District operates and maintains 24 CIMIS stations. For more information, contact Mark Rivera at (916) 227-7603; or e-mail mrivera@water.ca.gov.

San Joaquin District – Fresno

The San Joaquin District operates and maintains 27 CIMIS stations. For more information, contact Kent Frame at (209) 445-5428; or e-mail kframe@water.ca.gov.

Southern District – Glendale

The Southern District operates and maintains 36 CIMIS stations. For more information, contact Sergio Fierro at (818) 543-4601, Ext. 297.



Water Conservation

Graywater Standards Revised

Thanks to the handiwork of Marsha Prillwitz (DWR / USBR), the Building Standards Commission approved the revised California Graywater Standards on March 18, 1997. The biggest change in the standards is that graywater systems can now be used in commercial, industrial, and multi-family projects as well as single family residences.

Another change is that one irrigation zone rather than two is now required. Also, filters are sized appropriately to maintain the filtration rate rather than the previously prescribed oneinch filter. A new procedure for estimating graywater discharge has been added for commercial, industrial, and institutional projects. For a copy of the revised standards or for more information, please contact Arturo Carvajal at (916) 327-1622, e-mail arturo@water.ca.gov; fax (916) 327 1815.

Survey of the Economic Benefits of Linear Irrigation Systems

A recent survey on linear irrigation systems found that although their initial cost is fairly steep, they ultimately prove economically beneficial. Approximately 40 growers in California irrigate with linear systems, and about a third of them participated in the survey. Once the initial cost of about technique allowed for less applied irrigation water and \$1,000 per acre is amortized over five years and maintenance and operational costs are added in, the annual cost over the five-year period is around \$300 per acre per year. The economic benefits may stem from increased germination, higher yield, reduced cultural costs, water conservation, and reduced irrigation run-off. The project was funded by the Agricultural Water Conservation Unit of DWR's Water Conservation Office, and the project was conducted by the California State University Center for Irrigation Technology at Fresno. For further information, contact Fawzi Karajeh at (916) 327-1828, e-mail fkarajeh@water.ca.gov; or David Zoldoske at (209) 278-2066.

New CIMIS Station Online

DWR's Central District staff installed CIMIS Weather Station

#132 (Morgan Hill) on December 3, 1996. The station is located approximately 2 miles south of Anderson Dam, east of Highway 101, in Morgan Hill. The weather station is owned and maintained by the Santa Clara Valley Water District and located in a pasture owned by the Morgan Hill Unified School District at Live Oak High School. Over 90 weather stations located throughout California now make current evapotranspiration data for water demand management and weather information available to the public at no charge. For further information, contact Mark Rivera at (916) 227-7603, e-mail mrivera@water.ca.gov.

A Shallow Groundwater Management Project Completed

Maintaining a water table within 4 feet of the soil surface in a west side San Joaquin Valley field resulted in increased use of shallow groundwater by cotton and tomatoes. In a cotton field, nearly 17 percent of the cotton water requirements was met with shallow groundwater when the water table was controlled to an average depth of 4 feet below the soil surface. In a tomato field, irrigation was reduced by 2.5 inches when the groundwater table was also maintained at a depth of 4 feet below the soil surface. This management subsequent deep percolation without reduction in crop yield. For further information, contact Fawzi Karajeh at (916) 327-1828, e-mail fkarajeh@water.ca.gov.

National Alfalfa Symposium

The 27th National Alfalfa Symposium was recently held in San Diego. Over half of the one million acres of alfalfa grown in California each year is grown in the San Joaquin Valley. Alfalfa is second only to cotton in revenue produced by field crops, and consumes the most agricultural water in California. Consequently, monitoring production trends of alfalfa is an important task for DWR's forecasts of agricultural water demands. A continued statewide decrease in alfalfa acreage (one half of one percent per year) is projected by industry representatives. Reasons for the decrease include



competition with urban interests for land and water resources, environmental benefits, and economically beneficial crop shifts. In regions such as the San Joaquin Valley, where urban growth tops the State average, the rate of alfalfa acreage decline may be higher according to some analysts. However, alfalfa will continue to play a significant role in California due to demands from the dairy, cattle, and horse industries, as well as export interests. For further information, contact Kent Frame at (209) 445-5428, e-mail kframe@sjd.

Recent Changes in WCO

Keith Watkins, Chief of WCO's Urban Water Conservation Programs, is currently pursuing a master's degree in Public Policy at the University of Southern California. In order to focus on his course of study, Watkins is on a two-year special assignment working on the water conservation elements of Bulletin 160-98, *California Water Plan Update*. Greg Smith will replace Watkins in the interim. Smith received his master's degree in Water Science and his doctorate in Soil Science from UC Davis. He has worked previously in WCO, most recently as the network administrator and was instrumental in the development of web sites for all programs in DWR's Division of Local Assistance. Look for some exciting information on urban water management planning and other useful items soon in our new urban water conservation web page.

Water Conservation Coordination

DWR's Water Conservation Office is participating in an effort to identify opportunities for the Department, U.S. Department of Agriculture, U.S. Natural Resource Conservation Service, and U.S. Bureau of Reclamation to collaborate at the local level when carrying out agency initiatives, programs, and mandates. For example, the USBR field office in Fresno is interested in funding five additional California Irrigation Management Information System stations. DWR's San Joaquin District has already been

contacted to provide technical input and guidance on needs, location, and cooperators. The USDA-NRCS administered federal Environmental Quality Incentives Program (EQIP) can provide cost-share funds as an incentive to install improved irrigation systems or to hire irrigation consultants for irrigation scheduling and irrigation system evaluations. For further information, contact Arturo Carvajal at (916) 327-1622, e-mail arturo@water.ca.gov.

Little Hoover Commission

The Little Hoover Commission has released its final report on Public Utility Commission regulated utilities, including water. The report says PUC has been impeding water conservation efforts, and in response to both water conservation and water quality concerns, the Little Hoover Commission recommends that the Governor and the Legislature turn the water utility rate-setting function over to the State Water Resources Control Board. For further information, contact Linda Ackley at DWR's Office of the Chief Counsel, at (916) 653-7485, e-mail lackley@water.ca.gov.

1995 Urban Water Management Plans

Nearly 260 urban water agencies have filed 1995 urban water management plans with the Department of Water Resources; several agencies have also requested exemptions. DWR expects plans to arrive from over 50 more agencies. A reminder letter was recently sent out to "tardy" agencies explaining that plans were due in early 1996. Plans have been coming in steadily since then. For further information, contact Greg Smith at (916) 327-1619, e-mail gregs@water.ca.gov.

CIFAR Welcomes the California Department of Water Resources

The California Resources Agency and the University of

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Water Conservation news briefs

(continued from page 7)

California have arranged for the California Institute of Food and Agricultural Research to sponsor their second fellowship under the Natural Resources Fellowship program. Charles Pike of the California Department of Water Resources, Water Conservation Office, began a fellowship at UC Davis in January 1997. His goals for the fellowship project are the identification of demand management programs used by energy utilities and trends in businesses that can help forecast future water needs. He is also interested in programs to reduce solid waste that have a high potential to serve the needs of water utilities and their customers. He expects to complete his project at CIFAR in June 1997. For further information, contact Charles Pike at (916) 327-1649, e-mail cpike@water.ca.gov.

Plans Under Way for Water Awareness Month

This May marks the tenth year that the California Water Awareness Campaign will sponsor activities and events for Water Awareness Month. The campaign plans special events every May in order to encourage wise water use. This year's theme is again "Use Water Wisely, It's a Way of Life." The campaign will include celebrations at minor league baseball parks, "fun runs" with a water awareness theme, public service announcements on radio and television stations, and many games and activities for children and adults of all ages. For more information about the California Water Awareness Campaign, or to request a catalog of materials or campaign kit, call campaign coordinator Lynne Wichmann at (916) 441-4718.

Prop 204's Water Conservation and Groundwater Recharge Loan Programs

With the passage of Proposition 204, the Safe, Clean, Reliable Water Supply Act was enacted. A portion of the Act will provide loans to acquire land and develop facilities for groundwater recharge and capital investments in water conservation facilities. Currently, the Department of Water Resources is finalizing regulations and application packages for these programs. Following are the basic provisions of the loans and the criteria for obtaining one:

Project Description

- Feasibility studies include reports on the feasibility of eligible projects
- Groundwater recharge projects include, but are not limited to:
 - Land and facilities for artificial groundwater recharge through: *Percolation using basins, pits, ditches and furrows,*

(continued on page 11)

CIMIS Workshop Gets Many "Plugged In"

Growers and large turf managers recently learned how the California Irrigation Management Information System could help save time, money, energy, and water. Participants found out how to "plug in" to weather data by using a computer and how to use this data to calculate the water needs of crops or turf during various seasons of the year. The workshops were held during the annual meeting of the California Irrigation Institute in Fresno in January 28-29, 1997. About 40 people participated during the two-day period.

"We hope to present a CIMIS workshop again at next year's CII annual meeting," says Baryohay Davidoff, Agricultural Water Conservation Chief. "Farmers, turf managers, and other participants told us that this one was really helpful."

Davidoff says it's important for participants to sit at a computer and get hands-on experience using CIMIS software.

"Having CIMIS staff walk you through the program really helps," he says. "Participants also get a free user's guide that will enable them to obtain CIMIS data after the class."

From farmers to golf course irrigators, thousands of water users have found CIMIS to be an important source of irrigation information. Through the accurate and timely weather data provided by its 91 weather stations, CIMIS estimates plant water usage in many parts of California, and makes the data accessible to all. The number of users has grown from 250 in 1986 to 2,500 in 1996.

If you are interested in DWR presenting a CIMIS workshop in your area, contact Baryohay Davidoff at the Water Conservation Office, DWR, 1020 Ninth Street, Third Floor, Sacramento, California 95814, or call (916) 327-1788, e-mail baryohay@water.ca.gov.



May 14, 1997 CUWCC Steering Committee California Urban Water Conservation Council

Los Angeles Department of Water and Power, Los Angeles

Cost: Free

Telephone: (916) 552-5885

♦ June 4, 1997

CUWCC Cost-Effectiveness Workshop California Urban Water Conservation Council

Northern California

For more information, contact Denise Phelps Telephone: (916) 552-2929.

—This eight-hour workshop should prove useful to water quality managers, cost effectiveness analysts, and consultants by demonstrating how they can use quantitative tools to calculate costs and benefits and to provide results that may improve water conservation decision-making.

June 10, 1997 Water Education Committee Meeting

Kern County Water Agency, Bakersfield For more information, contact Carolyn Tucker

Telephone: (916) 653-9892

-Mark your calendar for the June 1997 Water Education Committee Meeting. The meeting will be hosted by the Kern County Water Agency and will include a tour of the new visitor center at Edmonston Pumping Plant.

♦ June 11, 1997

CUWCC Cost-Effectiveness Workshop California Urban Water Conservation Council

Southern California

For more information, contact Denise Phelps

Telephone: (916) 552-2929.

—This eight-hour workshop should prove useful to water quality managers, cost effectiveness analysts, and consultants by demonstrating how they can use quantitative tools to calculate costs and benefits and to provide results that may improve water conservation decision-making.

June 25, 1997

CUWCC Plenary Session

California Urban Water Conservation Council

Santa Clara Valley Water District, Santa Clara

Cost: Free

Telephone: (916) 552-5885

July 9, 1997

Agricultural Water Management Council Meeting

Sacramento Cost: Free

For more information, contact Baryohay Davidoff

Telephone: (916) 327-1788

-Mark your calendars for the first Agricultural Water Management Council meeting to be held in Sacramento.

♦ July 28-August 8, 1997

Designer/Manager School of Irrigation Short Courses

Cal Poly State University, San Luis Obispo

Cost: \$95-\$360

Telephone: (805) 756-2434

—These 12 short courses offered under the Designer/ Manager School of Irrigation fall under three main categories: agriculture/landscape courses, agriculture courses, and landscape courses. They cover specialized topics such as microirrigation for landscape, row crop drip irrigation, and basic pipeline hydraulics.

♦ August 14-15, 1997

Water Conservation Information Committee

Radisson Inn, Folsom Telephone: (916) 351-1500

Cost: Free

For more information, call Julie Spezia, U.S. Bureau of

Reclamation, at (916) 979-2318

The theme of this meeting will be Water Conservation and Watershed Management, and may include a whitewater rafting trip on the South Fork of the American River.

♦ September 10-12, 1997

Agricultural Irrigation System Evaluation

Cal Poly State University, San Luis Obispo

Cost: \$200

Telephone: (805) 756-2434

-This is a repeat of the excellent 2-1/2 day March 1997 Short Course emphasizing efficiency definitions and techniques of evaluation for distribution uniformity. Topics range from how to take a pressure measurement to what specific measurements are needed to evaluate and "tune up" six distinct irrigation methods. Software is included.

September 17-19, 1997

Interstate Council on Water Policy

The Westin, Horton Plaza, San Diego

Cost: \$150 - \$200

For more information, contact Dennis Letl

Telephone: (916) 327-1764

—This three-day event will focus on "Interstate Water Management - New Trends in Water Allocation." It will give participants an overview of federal laws and recent court decisions on interstate waterways, in addition to case studies involving interstate water management. The role of water use efficiency in the management of the Colorado River will also be discussed. This meeting is cosponsored by DWR. The July edition of Water Conservation News will include a complete synopsis.

Prop 204 (continued from page 8)

modified stream-beds, and flooding; Well injection and in-lieu recharge (except for the purchase of surface waters)

- Expansion and renovation of existing land and facilities already in use for groundwater recharge
- Water conservation projects include, but are not limited to:
 - Improvements in distribution system controls that conserve water
 - Lining and piping of ditches
 - Replacement of distribution systems to reduce leakage
 - On-farm irrigation systems that improve irrigation efficiency
 - Tailwater pumpback recovery systems
 - Capital outlay features of urban water conservation programs

Program Funding

- \$30 million total program funding (\$25 million for loans and \$5 million for a single grant to finance groundwater recharge facilities in an area adversely impacted by the Base Closure and Realignment Act)
- · Establishes a revolving fund
- Program administered by the Department of Water Resources

Contract Provisions

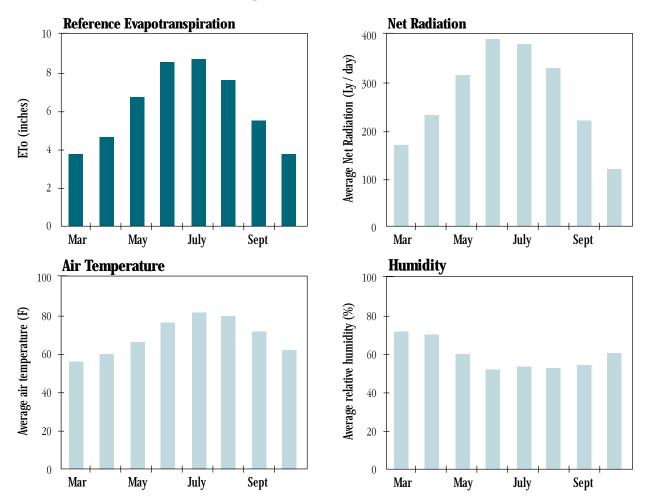
- No more than \$100,000 per feasibility study
- No more than \$5 million per construction loan
- Estimate of reasonable program costs and benefits, including a feasibility report
- Demonstrated ability to repay loan and justify economics of project
- 20-year loan period with an interest rate equal to 50 percent of State general obligation bonds
- Applicants must be public agencies

Funding Criteria

- Groundwater Recharge
 - · Project located in overdrafted basins with critical need
 - Economic justification, as well as engineering and hydrogeologic feasibility
 - · Located in areas with existing water management programs
- Water Conservation Projects
- Cost-effectiveness of project
- · Net savings of water demonstrated

If you would like to receive final regulations and an application package when available, call the Department of Water Resources, Division of Local Assistance, at (916) 327-1663. If you have any questions, contact Dave Rolph (water conservation) at (916) 445-8259, e-mail drolph@water.ca.gov; or Dan Otis (groundwater recharge) at (916) 327-1657, e-mail dotis@water.ca.gov.

CIMIS— Network News



The charts above show monthly reference evapotranspiration (ETo) and three of the four main environmental conditions that affect it, namely: sun energy (net radiation), air temperature, and relative humidity. Wind speed is the fourth factor. Reference evapotranspiration (ETo) is an estimate of water use of grass that provides an index of water use for all kinds of vegetation. ETo is estimated by weather stations that are part of the California Irrigation Management Information System (CIMIS).

CIMIS data is available to the public at no charge. For more information on CIMIS, visit our home page at http://wwwdla.water.ca.gov/cgi-bin/cimis/cimis/main.pl, or contact your area DWR staff listed on the front cover of this publication.



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